

9/5/6 (Item 1 from file: 60)
DIALOG(R)File 60: ANTE: Abstracts in New Tech & Engineer
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System and method of a fast inverse discrete cosine transform and video compression/ decompression systems employing the same

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Document Type: Patent

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Language: English

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Abstract:

An array of DCT transform **coefficients** are converted to a two-dimensional array of spatial **data** in a video **compression** or decompression system. The array of DCT transform **coefficients** are divided into two groups. A regional IDCT algorithm is applied to all **coefficients**, both non-zero and **zero**, of the **first** group, while IDCT computation is applied to only non-zero **coefficients** of the second group. The results of the operations are then combined and/or mapped to form the output array of spatial data. In one specific implementation wherein an 8.times.8 array of **DCT coefficients** are to be transformed, the first region is defined by the first quadrant of coefficients in the 8.times.8 array. A regional IDCT algorithm is applied to **both zero** and non-**zero** coefficients in the **first** quadrant. The non-**zero** coefficients in the remaining three quadrants are calculated directly, and the results of the direct calculations are combined with the results of the regional IDCT algorithm applied to the first quadrant coefficients. The resulting values are then mapped to the output matrix.

Descriptors: Arrays; Quadrants; Algorithms; Mathematical analysis; Transforms; Video compression; Mountains; Sun; Discrete cosine transform

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6/5K/6 (Item 4 from file: 349)
DIALOG(R)File 349: PCT FULLTEXT
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00746287

DIGITAL WATERMARKING METHOD AND APPARATUS
APPAREIL ET METHODE DE FACONNAGE EN FILIGRANE NUMERIQUE

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	Country	Number	Kind	Date
Patent	WO	200059148	A1	20001005
Application	WO	2000KR268		20000328
Priorities	KR	9910821		19990329
	KR	200015406		20000327

English Abstract:

Digital watermarking of digital audio is performed by Fourier transforming digital audio data, wavelet transforming the magnitude components of the Fourier transform coefficients of the digital audio data, discrete cosine transforming a watermark signal, multiplying the sign of the wavelet transform coefficients of the magnitude components to the coefficients of the discrete cosine transformed watermark signal, adding the coefficients of the Fourier transformed digital audio data and the adjusted discrete cosine transformed watermark signal, and inverse wavelet transforming the audio signal's coefficients before inverse Fourier transformation to finally generate watermark-embedded audio signal data.

...and second components;

wavelet transforming absolute values of said first components to generate first spectral coefficients; discrete cosine transforming a watermark signal to generate second spectral 0 coefficients; combining said first spectral coefficients and said second spectral coefficients; and inverse wavelet transforming the combined coefficients.
2...

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DIALOG(R) File 349: PCT FULLTEXT

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00353664

MULTIPLE SEQUENCE MPEG DECODER AND PROCESS FOR CONTROLLING SAME
DECODEUR MPEG A SEQUENCE MULTIPLE ET PROCESSUS DE COMMANDE

Patent Applicant/ Patent Assignee:

- **THE 3DO COMPANY;**
; ;

	Country	Number	Kind	Date
Patent	WO	9636178	A1	19961114
Application	WO	96US6510		19960508
Priorities	US	95439085		19950510
	US	95440464		19950510

English Abstract:

The process comprises the steps of: (a) extracting macroblock information from MPEG encoded image data (262); (b) extracting a series of parameters from the MPEG encoded image data (264); (c) determining quantization factors from the encoded image data (265); (d) configuring the configurable image decoding apparatus (266, 268, 270, 280), including (i) configuring a means for parsing the macroblock data into motion vectors and image data with the series of parameters with the parameters for decoding the encoded data; (ii) configuring a means for performing inverse quantization with the quantization co-efficients; (e) determining a decoding order of the extracted macroblock information to be decoded (270); (f) providing said extracted macroblock information to the parsing means in the decoding order (274); (g) combining decoded image data with motion vectors extracted by the parsing means (290); and (h) storing the combined data in the system memory (292).

The combination of DCT and quantization results in many of the frequency coefficients being zero, especially the coefficients for high spatial frequencies. To take maximum advantage of this, the coefficients are organized in a zig-zag order to produce long runs of zeroes. This is represented in Figure 1B. The coefficients are then converted to a series of run amplitude pairs, each pair indicating a number of zero coefficients and the amplitude of a nonzero coefficient.

Detailed Description:

...blue (RGB) colorspace to the Y-CbCr color space, an application of the discrete cosine **transform** (DCT) to remove **data** redundancy, quantization of the **DCT coefficients** using weighting functions optimized for the human visual system, and encoding the quantized AC coefficient by **first** using **zero** run-length coding, followed by compression using entropy encoding, such as Huffman coding

The combination...